

What is claimed is:

1. An intake air control apparatus for an engine comprising:
  - a shaft;
  - a throttle valve fixedly secured to said shaft for adjusting the degree of opening in an intake passage through a rotational angle thereof;
  - a permanent magnet provided on an end portion of said shaft with its N pole and S pole being positioned in a diametral direction thereof;
  - a rotational angle detection sensor disposed in a spaced parallel relation with respect to said permanent magnet, and having a magnetoresistive element for detecting a change in direction of a magnetic flux of said permanent magnet thereby to detect a rotational angle of said throttle valve; and
  - a bypass member disposed to enclose said rotational angle detection sensor with its side near said permanent magnet apertured to form an opening surface, said bypass member being made of a magnetic material which is adapted to form a bypass path for the magnetic flux from said permanent magnet.
2. The intake air control apparatus for an engine as set forth in claim 1, wherein said bypass member is arranged in such a manner that said permanent magnet is disposed at an inner side of said bypass member when viewed in the axial direction of said shaft.
3. The intake air control apparatus for an engine as set forth in claim 1, wherein said magnetoresistive element is disposed at a location offset from said opening surface toward a bypass member side.
4. The intake air control apparatus for an engine as set forth in claim 1, wherein said bypass member is composed of two members comprising a bottom member, and a cylinder member extending from said bottom member toward said permanent magnet.
5. The intake air control apparatus for an engine as set forth in claim 1, comprising a body having said intake passage formed therein to receive said shaft and said throttle valve, said body being adapted to be closed by a cover,

wherein said rotational angle detection sensor is integrally formed with said cover by insert molding.